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Surface Transportation Policy Project

The Surface Transportation Policy Project (STPP) is composed of organizations, coalitions, and grassroots groups who believe that a comprehensive transportation policy—that serves environmental, social, and economic interests—is vital to the future of this nation. Formed in 1990, STPP represents both public and private entities who have interests in transportation investment and policy, environmental quality, energy policy, natural resource conservation, design quality, neighborhood and historic preservation, planning, and transportation safety. The project seeks to create a partnership between these independent, non-profit organizations, the private sector, and all levels of government.

STPP's primary objective is to ensure that federal support for transportation promotes clear national mandates for environmental quality, a strong economy, energy and resource conservation, and enhances the quality of life in neighborhoods and communities.

STPP recognizes that transportation services must support state, local, and private programs and projects as well as national goals. Its sole purpose is, therefore, to identify the common principles that underlie national transportation objectives and to frame public debate so that this nation's interests are fully served.

To that end, STPP supports all efforts that focus public debate on surface transportation policy issues. Specific activities of the Project include: research, briefings, workshops, discussion groups, and other efforts to inform public and private decisionmakers at all levels of government of the importance of transportation in shaping this nation's future.

The work of STPP is made possible through grants from the Nathan Cummings Foundation, the Joyce Foundation, the James C. Penney Foundation, the Pew Charitable Trusts and the Surdna Foundation, Inc. Any organization that subscribes to STPP objectives is invited to participate in Project activities.

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A country road in Charles City County, Va. Once the norm, roads such as this have become a thing of the past in many communities. (Photo Courtesy of Shelley Mastran.)

America and Mobility

Americans are industrialists and farmers, fishermen and factory workers, scientists and street-sweepers, bankers, bakers, shopkeepers, homemakers, teachers, telephone operators, truckers, and office workers. We are a nation of crowded city streets and breathtaking canyons, of suburban strip malls and untouched prairie lands, of congested freeways and picturesque country roads.

Two hundred years ago, this country was a vast, untamed wilderness. Its people were geographically dispersed—isolated by wide rivers, tall mountains, endless plains, and

an uninhabitable desert. The country's economy was limited by the difficulty in delivering products and services over long distances.

The railroads tamed the wilderness and ended the geographic isolation of the American people. Fresh fruits and vegetables began to move from west to east in the dead of winter. Southern cotton was shipped north to textile manufacturers. Northern cloth, heavy machinery, and other goods found new markets. People moved everywhere. And America became a country reliant on transportation for its financial and social welfare.

Since the emergence of the railroads, every new form of transportation has been embraced and integrated into the American lifestyle. With the invention of the automobile, daily travel over increasingly long distances became an accepted—and expected—part of life. Workers no longer lived close to their workplaces—or to shops, restaurants, entertainment, medical services, and schools. Americans began to spend more hours and more money traveling and transporting goods than any other nation in the world.

Out of choice and necessity, we are now a country in continual motion. Transportation is critical to our welfare and economy. Planning and supporting this nation's transportation systems is, therefore, critical to the future of the country.

Putting Transportation into Perspective

After almost 200 years of building, the United States now has the most extensive transportation infrastructure in the world. When the federal Interstate system is completed in the 1990s, every region of the country will be connected through its network of freeways and bridges.

For all of this construction, however, this nation stands on the brink of a transportation crisis:

- Severe urban congestion is limiting economic productivity;
- Air and water quality problems are threatening the public health;
- Dependence on foreign oil is threatening national security; and
- Urban sprawl is eliminating productive farm lands and destroying forest growth patterns.

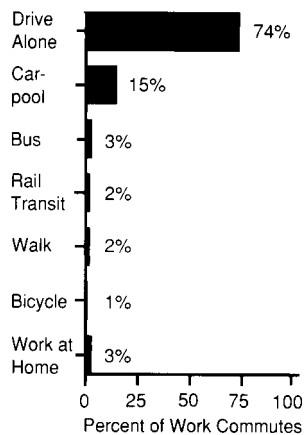
By September 30, 1991, the Surface Transportation Assistance Act—commonly referred to as the *Highway Act*—must be reauthorized by the Congress. This legislation forms the basis for federal assistance in funding highway construction and transit systems. With new legislation pending, construction of the interstate system nearing completion, and escalating transportation problems, the time has come to reassess the nation's transportation policies.

For many years the United States has led the way in helping other nations through crises. Our farmers have provided grain to those who cannot feed themselves. Our raw materials and technologies have helped build factories in far away places. Our medicines have saved lives of those we will never know. Despite our world leadership in other fields, the U.S. ranks 55th in infrastructure investment. It is now time to help ourselves, by setting goals that both strengthen our economy and lessen the burden that surface transportation is placing on our communities, environment, and national security.



In the coming years, transportation will need to address the needs of an aging population. (Photo courtesy of the National Trust for Historic Preservation.)

How Commuters Travelled to Work in 1983.



Source: Erik Ferguson, 1990. *The Influences of Household Composition on Residential Location and Journey to Work in the United States*. Washington, D.C.: Transportation Research Board Paper No. 890769 (January).

Trends that will Affect Transportation Decisions

During the 20 year period of 1960 to 1980 the annual population growth in the United States fell from 3 to 1 percent, and, although the trend is expected to continue, the amount of automotive traffic and the consequent congestion will grow. Demographic trends show the following:

Our population is aging—average age will increase to 38 by the year 2010. As a result, there will be an increasing number of retirees, with spare time to travel, on the roads. Although these people may not drive during peak commuting hours, they will add to the overall traffic volume.

Population migration to the sunbelt will continue. By the year 2010, the south will have grown by 14 million people, the west will grow by 17 million and the northeast will grow by 2.4 million—the Midwest is expected to experience a population loss of 300,000. Two problems will result from this trend: regions that are growing will have heavy burdens placed on their transportation systems, and regions that are losing population will have a smaller base to support the costs of operating and maintaining their systems.

Metropolitan areas will grow.

Approximately 77 percent of Americans now live in metropolitan areas. In the past 40 years, almost 80 percent of the new metropolitan residents, and 75 percent of the new job opportunities, have been in the

suburbs—the suburbs now account for 44 percent of the total metropolitan population. Without more mass transit available to suburbanites, as suburban populations continue to grow, suburb-to-suburb commuting and shopping patterns will further increase congestion.

Family and workforce compositions will continue to change.

Today, 60 percent of the working age population is employed—85 percent in full-time, nine-to-five positions. The female percent of this workforce, which was 32 percent in 1950, is expected to grow to 60 percent by the year 2000. The proportion of women entering the workforce has slowed, however, the percent of women who work and have children is rising rapidly. This trend suggests that additional travel will be required to deliver children to daycare, and attend to shopping and errands during rush hour.

People will live farther from their workplaces. In two-income families it will be difficult to find housing within close proximity to both workplaces. One, or both, workers will, therefore, be required to commute over a long distance, which will again increase congestion.¹

This is our future, and the transportation policies we establish must respond to it.

¹"Five Demographic Trends that Will Influence Infrastructure Needs," 1990. *The Public's Capital* (Spring).



Transportation Basics: Goals for the Future

If size and extent were measures of effectiveness, the United States would surely have the best surface transportation system in the world. However, in transportation, effectiveness is not measured by miles of highways or vehicle carrying capacity, it is measured by system *performance*.

At the most basic level, transportation system performance is a function of the speed and ease of moving people and products to their destinations. Transportation systems use many non-renewable resources—land for road and railbeds and parking, and oil and mineral reserves for building, maintaining, and fueling both vehicles and the infrastructure, for example. In addition, they affect air and water quality. Performance, therefore,

must also be measured on the basis of impacts on each of these resources.

The Four E's

STPP's goals for transportation can be summarized by four E's:

- Economy,
- Energy efficiency,
- Environmental quality, and
- Enhanced communities.

Transportation policy that focuses investment on these issues, whether it calls for capital improvements, creates a ridesharing or transit credit program, or suggests the adoption of a telecommuting program, is in the national interest.

It no longer matters whether the commute is from suburbs to city, city to suburbs, or suburb to suburb. Like most other Americans who drive to work, Los Angeles commuters may spend hours each day in traffic—wasting time that could be put to more productive use, expending fuel, polluting the atmosphere with tailpipe exhaust fumes and particulates, and causing wear to road surfaces. (Photo courtesy of Department of Transportation, Sacramento, Calif.)

Economy

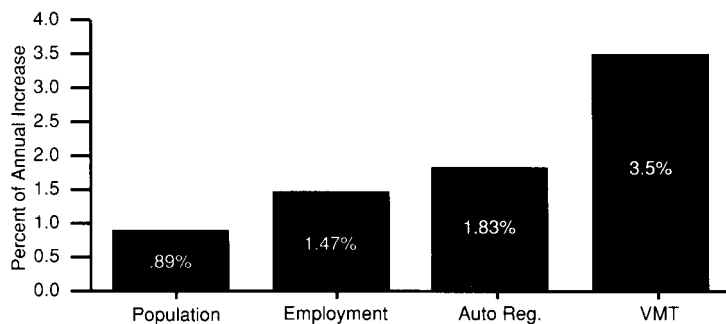
Americans seem to have an innate affection for automobiles and the freedom they represent. During the past decade the percent increase in the number of car registrations and vehicle-miles-travelled (VMTs) far outstripped growth in the U.S. population—a trend that is expected to continue into the next century.

Slow traffic slows the economy. Commuters spend long periods in traffic jams—frequently arriving at their workplaces late and frustrated. Delayed delivery of materials causes production bottlenecks and other problems for businesses.

Not long ago, the problem of traffic congestion was limited to large urban environments. It has now reached nationwide proportions and threatens to damage the entire nation's economy.

Each year drivers spend nearly 1.5 billion hours in traffic jams. When that number increases to the 4.0 billion hours the U.S. General Accounting Office projects for the beginning of the 21st century, America is likely to be a nation in uncontrollable gridlock.

A Comparison of Annual Growth Rates in U.S. Population, Employment, Automobile Registration, and Vehicle-Miles Travelled from 1980 to 1989.



Source: U.S. Statistical Abstract and Federal Highway Administration

Cars and Trucks: Culprits in Congestion

Whether they live in metropolitan, suburban, or rural locations, most Americans travel *by themselves* in cars or light trucks/vans (LTVs)—vehicle occupancy figures for 1990 showed an average of 1.12 passengers per vehicle. More than 143 million cars and 43 million commercial trucks are now on the nation's roads—and the number is growing at the rate of better than 1.5 percent a year.¹

Total vehicle miles travelled on urban Interstates during peak periods increased by 14 percent between 1983 and 1989.² But that was only part of the story.

Accidents also affect congestion. From 1981 to 1986 automobile accidents decreased but truck-related accidents increased by 15 percent—and, when large commercial trucks have serious accidents they often close entire portions of highways, snarling already congested traffic for hours at a time.³ A second aspect of the truck problem is size and weight. The nation's

¹Federal Highway Administration, 1990. *Highway Statistics 1989*. Washington, D.C.: Federal Highway Administration. p. 17.

²U.S. Department of Transportation, 1990. *National Transportation Planning Study*. Washington, D.C.: U.S. Department of Transportation. p.5.12.

³Federal Highway Administration. p. 164.

highways were not built to accommodate the increasing size and weight loads of today's trucks. As a result, trucks are deteriorating our roads, and crowding other traffic. More than 40 percent of the pavement on the nation's federal highway system is now deficient.⁴

Productivity Gains Through Improved Transportation

Workforce productivity and spending on transportation infrastructure go hand-in-hand. Countries that maintain high investments in their transportation infrastructure reap the benefits in productivity growth. As Richard Mudge and David Aschauer write, "...during the past two decades, Japan has invested about 5.1 percent of its output in public works and achieved productivity growth of 3.1 percent per annum. The United States, meanwhile, has maintained a low public investment ratio of 0.3 percent and seen inferior productivity growth of 0.6 percent per year."⁵

If the United States is to continue to compete in world markets, it must make these kinds of infrastructure investments. In the meantime, corporations like 3M and Atlantic Richfield (ARCO) are finding their own solutions.

⁴ Richard Mudge and David Alan Aschauer, 1990. *Enhancing U.S. Competitiveness Through Highway Investment: A Strategy for Economic Growth*. Washington, D.C.: The American Road and Transportation Builders Association (June). p. 5.

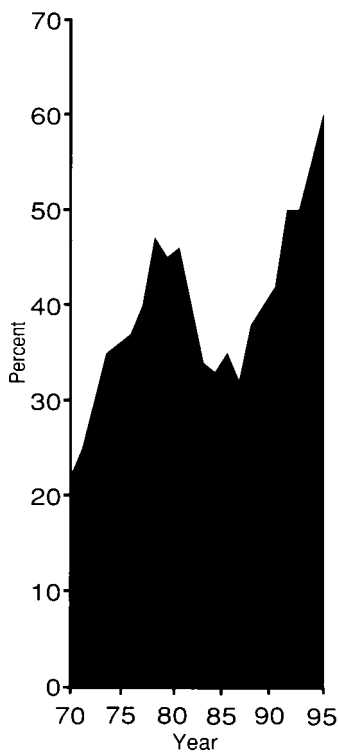
⁵Ibid., p. 4.

3M believed that transportation problems were hampering corporate productivity and potential growth. The international corporate headquarters of 3M, located in the eastern suburbs of St. Paul, Minn., is only served by one bus route. 3M solved this problem with a flexible work hours program—initiated in 1971, and later expanded to include carpool and vanpool programs, and a subscription bus service that is provided through the Twin Cities Metropolitan Transportation Commission. The company's vanpool program carries more than 10 percent of the company's 7,000 employees—carpools carry another 26 percent. The carpool program is extremely affordable, because 3M leaves program administration to the discretion of its employees.

ARCO, located in downtown Los Angeles, Calif., had similar problems. Its solution was a Transportation Demand Management (TDM) program. Their program incorporates: carpools, company-sponsored van pooling, buspooling, transit information and pass sales, Amtrak Commuter Rail, telecommuting (working at home), and compressed work weeks. To make the programs attractive, ARCO subsidized employees who use any of their TDM alternatives. The results are impressive. The program has been in place since 1972. By 1989, 26.2 percent of ARCO's employees commuted by carpool, 13.6 percent by vanpool, 20.2 percent by transit or Amtrak—only 40 percent drove alone.

Energy Efficiency

Imported Oil as a Percent of Total U.S. Oil Consumption—Actual and Projected Figures.



Source: U.S. Department of Energy

In 1991 the United States will purchase nearly 50 percent of the oil it needs from foreign suppliers. If this trend continues, by the year 2030 our dependency level will reach 80 percent.¹

Imported oil is responsible for approximately 40 percent of this country's trade deficit. Furthermore, we import most of our oil from politically unstable parts of the world, where frequent conflicts could result in a shut-down of oil supplies at any time. For these two reasons, reducing reliance on foreign oil sources is paramount to both the security and economic interests of this nation.

Transportation and Oil

Transportation accounts for 63 percent of all domestic oil consumption each year. Another 9 percent of the oil supply is used to build and maintain the nation's transportation infrastructure—which, when added to vehicular consumption, brings the total transportation consumption rate of oil to 72 percent.

Within the transportation sector, nearly three-quarters of the oil consumption in 1987 was for high-

¹Louis J. Gambaccini, Chief Operations Officer / General Manager, Southeastern Pennsylvania Transportation Authority, 1990. *Building Support for Public Transportation: A "Call to Arms."* Philadelphia, Pa.: Paper presented at "Transit Policy Seminar."

Transportation Energy Use by Mode (1987).

Mode and Vehicle	Load	Percent of Total
HIGHWAY		
Automobiles	Passenger	40.3
Motorcycles	Passenger	0.1
Buses		0.7
Transit	Passenger	0.3
Intercity	Passenger	—*
School	Passenger	0.3
Trucks		32.6
Light-duty	Passenger/Freight	18.3
Other Trucks	Freight	14.3
OFF-HIGHWAY		
Construction	Freight	2.0
Farming	Freight	1.0
NON-HIGHWAY		
20.4		
Air	Passenger/Freight	8.7
Gen. Aviation		0.6
Dom. Carrier		7.2
Intl. Carrier		0.9
Water		6.0
Domestic Trade	Freight	1.7
Foreign Trade	Freight	3.3
Rec. Boats	Passenger	1.0
Pipeline		3.5
Natural Gas	Freight	2.6
Crude Oil	Freight	0.4
Oil Products	Freight	0.3
Coal Slurry	Freight	*
Water	Freight	0.2
Rail		2.2
Freight	Freight	1.9
Transit	Passenger	0.2
Commuter Train	Passenger	*
Intercity	Passenger	*
MILITARY OPERATION		
		2.9
Total		100.0

* Consumption is negligible.

Source: Deborah Gordon, 1990. *Steering a New Course: Transportation, Energy, and the Environment.* Cambridge, Mass.: Union of Concerned Scientists. p. 32.

way traffic: passenger cars accounted for 40.3 percent; light-duty trucks—used to carry passengers and freight—accounted for 18.3 percent; and all other trucks accounted for 14.3 percent. At an annual consumption rate of 0.2 percent, transit's portion of oil usage was virtually negligible.

Reducing Transportation's Use of Energy

During the 1970s there was a substantial, somewhat successful, push to improve the fuel efficiencies of motor vehicles. Unfortunately, while miles-per-gallon figures increased, so did the number of vehicles on the road and the number of miles driven. The net result is disappointing: even with more efficient vehicles, the nation's transportation consumption of oil continues to rise.

Although attempts to increase fuel economy must continue, achieving real reductions in oil dependency will require alternatives to gasoline powered engines, and alternatives to the one-person-per-vehicle mentality that we, as a country, now have.

Alternatives to Gas-Powered Vehicles

Research into and development of alternatives to the gasoline-powered engine is ongoing. Vehicles powered with ethanol, compressed natural gas (CNG), liquefied petroleum (LPG), electricity, and hydrogen are either under development, or in limited use in the United States and other countries.

The Efficiency of Transit

On a per-passenger basis, transit uses substantially less fuel, and emits significantly lower levels of pollutants into the atmosphere than single-passenger automotive traffic. Improving transit systems and encouraging more people to use existing services is one of the best means this country has for reducing oil dependency.

Despite its advantages, the percent of Americans who commute by transit dropped from 12.6 to 6.4 between 1960 and 1980 because of changing land use patterns and an accompanying rise in auto ownership.² Transit use has stabilized during the past decade however, and recent polls indicate that Americans favor transit improvements over other options as a method of relieving congestion.³

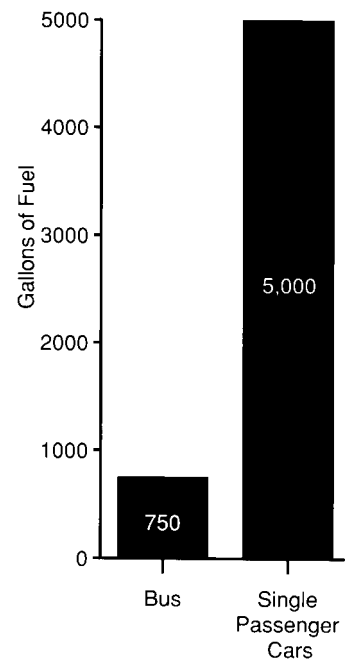
Innovations in Reducing Energy Use

The fact that alternatively-powered vehicles are not going to replace the gas engine in the near future doesn't mean that the nation can't lower its transportation fuel consumption. Quite the contrary. Through the past few years quite a few innova-

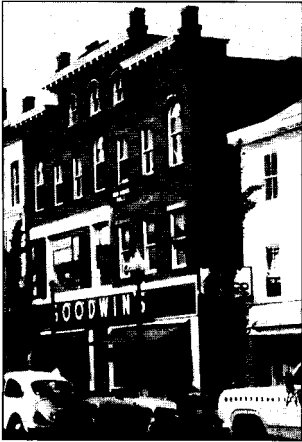
²United States Department of Transportation, 1990. *National Transportation Strategic Planning Study*. Washington, D.C.: U.S. Department of Transportation (April).

³According to Transit Now's *National Opinion Survey*, conducted by Market Strategies, Inc. in June 1990, more than 70 percent of those polled favored transit improvements to solve transportation problems, approximately 15 percent more than those who favored new road construction.

Annual Fuel Consumed by 40 Commuters for a 10-Mile Round Trip—Bus Vs. Passenger Cars.



Source: American Public Transit Association



Small towns are particularly hard hit by the lack of transportation alternatives—especially in light of changing commuter patterns. (Photo courtesy of Tom Moriarity.)

tive strategies have been implemented successfully in communities throughout the nation.

Ridesharing

Americans are innovative. Faced with the 1973 mid-east oil embargo and the consequent gas shortages, many decided to carpool to their workplaces. For the rest of that decade the number of carpools increased steadily. When the first "High-Occupancy-Vehicle" (HOV) lanes were opened in the 1970s, commuters had a new incentive for carpooling—reduced travel time.

The nation benefits because carpooling reduces energy consumption and air pollution:

- A nine-passenger vanpool reduces energy consumption by 83 percent; and
- A three-person carpool reduces consumption by 66 percent.

By 1983, 15 percent of the nation's commuters participated in car or vanpools, saving almost 400,000 barrels of oil each day.⁴

Telecommuting

The explosion of personal computer and telecommunications equipment technology has made it possible for many people to stay at home and still maintain full-time, productive careers. And many are doing just that.

⁴ Deborah Gordon, 1990. *Steering a New Course: Transportation, Energy, and the Environment*. Cambridge, Mass.: Union of Concerned Scientists. pp. 130-131.

In 1980, 3 percent of the nation's workforce had set up home offices and become "telecommuters." The State of California estimates that by the year 2000 telecommuting will result in a reduction of up to 30 billion passenger-miles of travel, 700 million gallons of fuel, and 7 million tons of CO₂ will be saved as a result of telecommuting.

Flexible Work Schedules

In the past 10 years many businesses have implemented programs that allow employees to work on flexible schedules. Some offer compressed work weeks, some offer flexible work hours, and others offer staggered work schedules. Employees work a 40-hour week, but are not tied to a nine-to-five work day. Because of the flexible arrival and departure times these programs offer, commuters who work in organizations with flexible work schedules often travel at non-rush hour time. This lowers peak-hour congestion, while reducing fuel consumption and corresponding air pollution.

Reduced Fuel Consumption Provides Other Benefits

When this nation's energy dependence problems have been solved, so too will many of our other transportation and environmental problems. Transportation policy should explicitly focus on energy efficiency as a national transportation objective. Transportation planning, investment, and research should address this objective.

another way, each 15 gallon tank of gas results in the eventual release of 300 pounds of carbon dioxide.¹

Transportation-related carbon dioxide emissions account for 25 percent of the United States annual emissions of this gas. In and of itself, carbon dioxide does not cause global warming; however, carbon dioxide, along with carbon monoxide, nonmethane hydrocarbons, and nitrogen oxides react in the presence of heat to produce ozone.

Ozone is smog. Ozone results in shortness of breath, and in time permanent lung damage. Smog contributes to global warming.

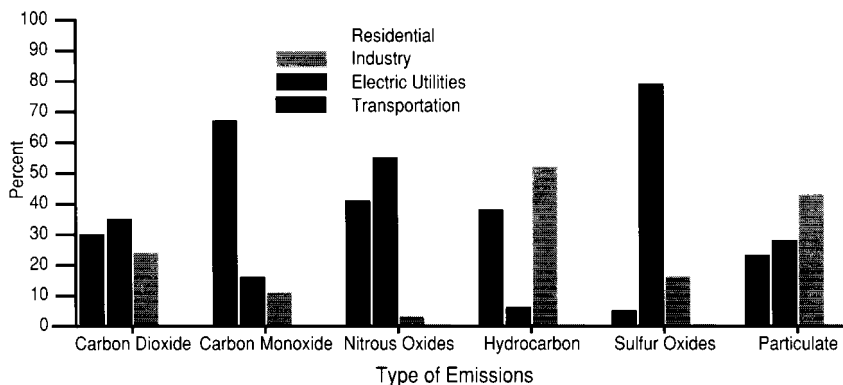
Water Pollution

The construction and routine use of the nation's transportation infrastructure also causes significant damage to water quality, primarily in the form of polluted run-off from

roads and highways. After a rain-storm, this run-off typically contains toxic heavy metals such as zinc, mercury, and cadmium, plus automotive oil and grease. A Natural Resources Defense Council (NRDC) study estimated the oil and grease washed from roads and highways in the Hampton Roads region of Virginia, and discharged annually into the Chesapeake Bay, is on the order of magnitude of a major oil spill.²

Transportation systems and urban build-up are also major, highly visible factors, in wetlands loss, especially in coastal areas.³ Construction of causeways, bridges, roads and highways across marshes and swamps, and the use of wetlands to dispose of "fill" material excavated from transportation sites, are the most serious problems. Although government regulations have slowed these forms of wetlands loss, decisions on whether, where, and how to construct transportation structures are at the center of controversies to preserve wetlands. Once in place, roads and highways built close to wetlands can continue to cause damage in the form of run-off pollution.

Contributions of Sectors of the U.S. Economy to Air Pollution in 1988.



Sources: USC estimates; Environmental Protection Agency.

¹James J. MacKenzie and Michael P. Walsh, 1990. *Driving Forces: Motor Vehicle Trends and the Implications for Global Warming, Energy Strategies, and Transportation Planning*. Washington, D.C.: World Resources Institute. p. 7.

²Richard G. Cohn-Lee and Diane M. Cameron, 1991. *Poison Runoff in the Tidewater Area*. Washington, D.C.: Natural Resources Defense Council. p. 3

³Office of Technology Assessment, 1984. *Wetlands: Their Use and Regulation*. Washington, D.C.: U.S. Government Printing Office. p. 99.

The Costs of Pollution

Each year as many as 120,000 people die as a direct result of air pollution. It is further estimated that the annual costs of pollution, in terms of human health and the environment, range from \$4 to \$93 billion.⁴ Air pollution from motor vehicles is also damaging agriculture and wildlife, corroding and soiling buildings, degrading visibility, and contaminating water supplies when there are leaks from underground fuel-storage tanks.

Lowering Vehicle Emissions

Federal attempts to lower vehicle emissions through technological changes have been two-fold. They began in the mid-70s when auto manufacturers were required to add catalytic converters to vehicles and when the country's mandatory fuel efficiency program was established. The program, which went into effect with the 1978 model year required that new cars achieve a minimum of 27.5 miles-per-gallon by 1985.

New car fuel efficiency doubled between 1974 and 1988, reaching to a level of about 28 miles-per-gallon as measured by EPA. More importantly, carbon dioxide emissions declined by about 1.5 percent a year between 1971 and 1988.

Even with this improvement, however, the pollution problem will continue to worsen simply because

the total number of vehicles on the road continues to climb. It is estimated that if "emissions per vehicle continue their downward trend at 1.5 percent per year...carbon dioxide emissions from U.S. motor vehicles will increase by about 6 percent by the year 2000."⁵

Solving the Problem

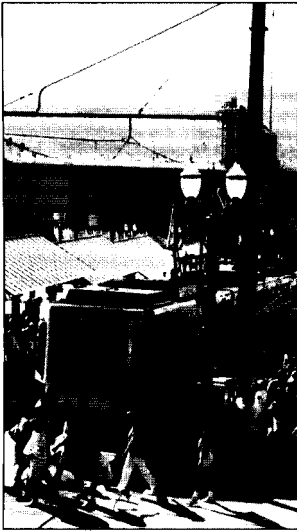
The Clean Air Act, as amended, has put new momentum into this country's efforts to solve its pollution problems. Under the Act, the transportation plans of every region in the country must conform to their state's targets for emissions reductions if they are to be funded by the federal government. Regional plans must be, in the words of the Act "consistent with necessary emission reductions contained in the applicable implementation plan"—or they must be changed.

As stated by Richard E. Ayres of the Natural Resources Defense Council, "... from now on transportation programs must, by federal law, be used as an instrument of achieving healthful air quality, not treated as if transportation planning has no relation to the quality of the air we breathe."⁶

⁴Deborah Gordon, 1990. *Steering a New Course: Transportation, Energy, and the Environment*. Cambridge, Mass.: Union of Concerned Scientists.

⁵Mackenzie and Walsh, pp.33-34.

⁶Richard E. Ayres, Natural Resources Defense Council, 1991. *The Clean Air Act: Catalyst for a New Transportation Policy*. Alexandria, Va.: Paper presented at the Transit Policy Seminar, February 14-15, 1991.



Whether for traveling to work, filling business shipping requirements, attending to family matters, or for recreation, every community must have a mix of transportation options. Shown above is the transit stop at the Oregon Convention Center. (Photo courtesy of Tri-Met.)

Enhanced Communities

Transportation systems determine the quality of life in most communities. Well planned, properly integrated transportation enhances community life. People can choose their mode of commuting to work and arrive at their destinations with minimal effort. Businesses can ship and receive freight in a timely manner. And service providers are readily accessible to the public they serve. In addition, community residents can feel comfortable walking or biking—for work or for pleasure.

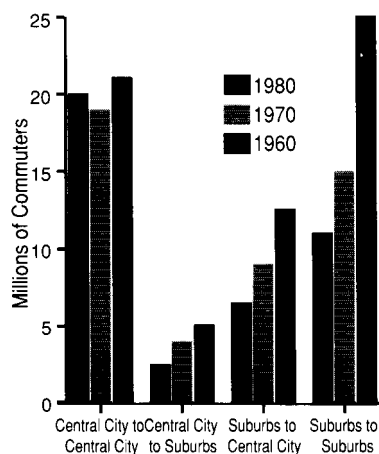
Transportation performance is now measured largely by one criterion: traffic speed—called *Level of Service* (LOS). The higher the speed, the better. Yet, in an increasing number

of cities, transportation planners are actually taking steps to *reduce* traffic speed in an effort to enhance neighborhoods, reduce noise and congestion, and encourage bicycle and pedestrian traffic. Davis, Ca., and Arlington County, Va., are two such communities. Transportation, to work, must be appropriate to the locale. In both rural and urban communities, it frequently is not.

Rural Isolation

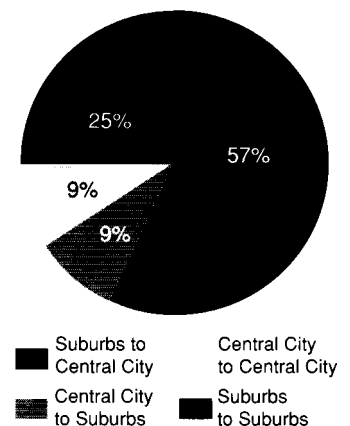
People in rural areas, with poor roads and few, if any, transit options, are isolated from jobs, schools, shopping, educational and medical services. They must often travel great distances just to make a living

Changing Patterns in Commuting from 1960 to 1980.



Source: Alan E. Pisarski, 1987. *Commuting in America*. Westport, Conn.: Eno Foundation for Transportation, Inc.

Percent of Commuters, by Type of Commute.



and maintain their households. Driving is often their only option.

Congestion in the Suburbs

In the 1950s, when the exodus from the cities to the suburbs began, the people who moved wanted the benefits of country life, and were willing to commute to the cities to achieve those benefits. When businesses also decided to relocate, new "suburban cities" began to develop. Urbanites became reverse commuters, and suburbanites became suburb-to-suburb commuters. Many of the benefits of suburban life were lost in the stream of congested traffic—with no transit or even sidewalks to offer a choice of travel.

Urban Economic Decline

Today, most of the nation's business development, and most of its new job opportunities, are in our suburbs. Much of our workforce remains in our cities, while suburban businesses cannot fill the jobs they have. The urban/suburban transportation connection has not yet been made. Without adequate "reverse commuting" support, workers cannot follow jobs to the suburbs. The result: tax base flight and higher urban unemployment.

Without the tax base to support investment, urban infrastructure declines, promoting other problems.

Transportation Myths and Realities

The first step in developing community-enhancing transportation systems is to recognize existing myths about the relationship between transportation and growth in population and businesses. These include:¹

Stopping development will also stop traffic growth. Traffic is in fact growing faster than development. Vehicle-miles-travelled (VMT) per capita rose by 17 percent from 1969 to 1983. During the 1970s and 1980s, population growth, housing, and employment accounted for 33 percent of the increase in traffic. The remaining 66 percent resulted from the per capita mobility increase. Thus, even without new development, traffic will increase—unless we change our ways.

Lower densities mean less traffic. Although density limits may seem the appropriate means for reducing traffic, research shows that higher-density residential and office projects generate fewer driving trips and more transit use per unit than low-density projects. To sustain transit service residential density should exceed 2,400 persons per square mile, with a minimum of seven dwellings per acre;² and

¹Urban Land Institute, 1990. *Myths and Facts about Transportation and Growth*. Washington, D.C.: Urban Land Use Institute.

²Deborah Gordon, 1990. *Steering a New Course: Transportation, Energy, and the Environment*. Cambridge, Mass.: Union of Concerned Scientists.



Built in the last quarter of the 19th century, this street car stand on the grounds of the U.S. Capitol in Washington, D.C., now shelters tourists waiting for tour buses. It has survived all these years because of its utility. (Photo courtesy of Tony P. Wrenn.)

business density should be at least 50 employees per acre of business development in areas with more than 10,000 jobs.

The affluent won't ride buses. This myth has its basis in the belief that people with higher incomes think buses are slow, unreliable, and designed for the inner city poor. However, national data from 1983 reveals that people with incomes above \$30,000 per year used buses as frequently as people with incomes below the poverty level.

Using Transportation to Improve Communities

Many transportation issues can only be addressed at the local level. Local officials have control over zoning laws, and they have a better sense of the lifestyles and needs of the residents in their community. Furthermore, they know which historical sites and other community resources should be preserved in any transportation planning activity. Planning and transportation measures to improve communities include:

- Linking rural areas to services and marketplaces—through public and paratransit whenever possible.
- Providing a mix of transportation options—cars, transit, bicycles, and pedestrian traffic—and the infrastructure to support each kind of traffic in suburban and urban areas. Bicycles, for instance, need trails and storage

lockers if they are to connect commuters with transit systems. Pedestrians need sidewalks, and changes in road designs that both control—slow—and provide barriers against traffic.

- Linking transportation to growth management plans, and reducing commuter car travel by adopting comprehensive parking management strategies. Employer-provided free parking should be eliminated and employer-assisted transportation subsidies equalized across all modes—this may mean paying employees to walk or bicycle to work.
- Preserving existing unused transportation corridors, such as abandoned rail lines, for bicycling and walking, and possible future rail or transit use. Linear parks or "greenways" need to be developed for both their amenity and transportation values.
- Regulating shopping mall size to encourage transportation efficiency and preserve neighborhoods. Land use can be configured to minimize total travel demand, while promoting choice. Street design criteria must support all modes, not just car travel.

Transportation measures to make communities more *livable* will vary among communities. However, the key word is *choice*. Without choice of travel, communities will deteriorate. There is a clear federal interest in maintaining our communities and supporting their transportation choices.

The Act: Systems Over Performance

The Highway Act of 1956 put the federal government into the role of transportation system builder for the Interstate and Defense Highway System. The project, which was projected at a cost of \$26 billion, has continued for more than 35 years at a cost of \$129 billion. With the Interstate nearing completion, and the Surface Transportation Assistance Act due for reauthorization, Congress has an opportunity to reconsider its stance on federal surface transportation policy and funding. Reform is needed.

Although the Administration has described the reauthorization proposal it submitted to the Congress as a "new vision for the coming generation in surface transportation,"¹ the actual proposal is short-sighted in its view of the Nation's transportation needs. It provides some incremental flexibility in project funding and a substantial federal match for operations improvements; however, its planning and funding recommendations continue to stress highway building. Moreover, it minimizes performance as a policy objective.

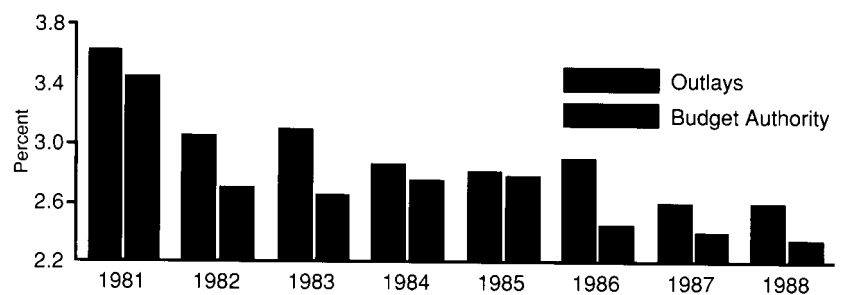
Specific issues upon which STPP and the Administration differ:

¹Letter from Samuel K. Skinner, Secretary of Transportation, to the Honorable Dan Quale and the Honorable Thomas S. Foley, February 13, 1991. p.1.

- The largest share of proposed federal funding is dedicated to the new National Highway System (NHS) of 150,000-165,000 miles. The NHS will consist of the Interstate system and parts of the primary system, linked together with beltways, bypasses, and connectors. As with the Interstate system itself, this

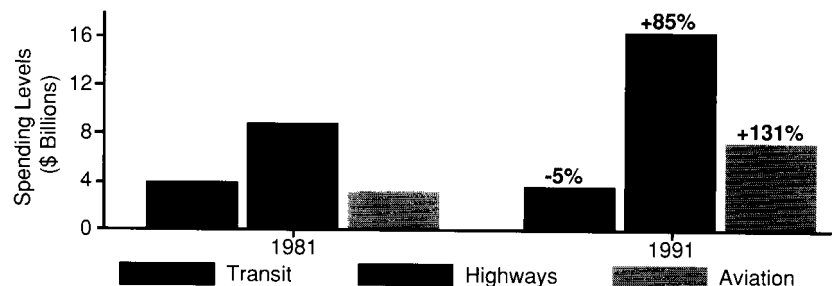
As shown below, transportation's share of the federal budget has declined steadily during the past 10 years. During the same period, funding for highways nearly doubled, funding for aviation more than doubled, and transit funding fell by 5 percent.

**The Transportation Portion of the Federal Budget—
Fiscal Year 1981 to Fiscal Year 1988.**



Source: American Public Transit Association

Changes in Federal Spending for Transit, Highways, and Aviation from Fiscal Year 1981 to Fiscal Year 1991—in real dollars.



Source: American Public Transit Association

Administration vs STPP Proposals

Both STPP and Administration' proposals reduce restrictions on the use of funds and earmark revenues for "flexible" programs. Referred to as "flexible funds," these monies can be used for any purpose now authorized under the transit and highway programs.

The Administration proposes: a combined urban/rural program of \$22.2 billion over five years; calls for most of the transit program to be flexible; permits limited flexibility in the use of National Highway System funds; sets a 60 percent limit on the federal share of funding for urban/rural and transit programs; and uses a formula based on fuel use to allocate funds from the National Highway System, thereby encouraging fuel consumption.

STPP proposes: separate urban mobility and rural access programs, for a combined total of \$50 billion over five years; limited flexibility in the reassignment of transit funds; a 75 percent rate for federal funding of both highway and transit programs, and a 90 percent rate for rehabilitation, operational, and management projects; and funds allocation formulas based more heavily on population and other factors that approximate transportation system needs.

policy will continue to encourage movement from the cities to the suburbs and suburbs to rural areas.

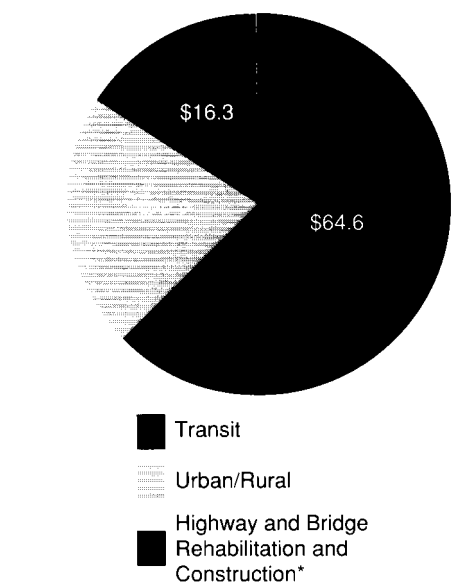
- The formula by which funds for the proposed NHS are apportioned to the states is based 70 percent on state fuel consumption. Thus, the more fuel consumed in an area, the more federal funding that area will receive. This provision discourages conservation, and penalizes high transit-use areas, which measure performance in terms of numbers of *people* moved, not the number of *car-miles* travelled.
- Transit, rail, bus, and non-motorized modes of transportation that could play a substantial role in reducing congestion remain under-funded: \$87 billion would be earmarked for highways, while only \$16.3 billion would go for transit. Although transfers between highway and transit funds would be allowed for some programs, the lack of local input in state funding decisions virtually ensures that most transfers would be to fund additional highway projects, which would further drain the funds available for transit.
- Funding for surface transportation would increase from approximately \$19 billion to almost \$24 billion annually over five years. However the percent of federal match for transit and locally planned transportation projects decreases. This effectively shifts the burden for

specific projects to states and localities.

- Finally, although metropolitan planning organizations (MPOs) and cities bear the burden of new planning requirements under the Clean Air Act and various state growth management laws, the authority to determine which transportation projects will receive federal funding remains largely with state highway agencies. This further complicates promotion of municipal and local transportation, clean air, and growth management objectives.

We can, and must do better.

Administration Proposed Funding for Highways and Transit (in \$ billions over five years).

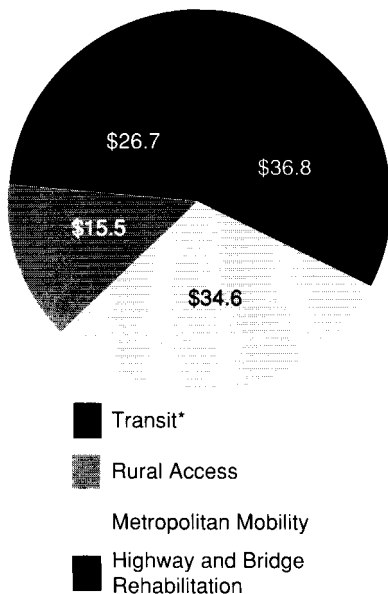


*Up to \$6.5 billion of these funds can be transferred to urban/rural and a majority of transit funds can be transferred to highways.

Transportation Performance: STPP Proposals

Although there is strong federal support for improving the delivery of transportation services, Administration proposals for the 1991 Surface Transportation Assistance Act fall short of achieving that end. Bold new steps must be taken if this country is to meet its future transportation needs.

STPP Proposed Funding for Highways and Transit (in \$ billions over five years).



*Only funds for new capacity, that have not already been committed, could be transferred.

The following proposals provide specific measures for restructuring the nation's transportation programs. While retaining overall highway funding levels suggested by the Administration, the proposals call for a redistribution of specific funds, and an increase in the role of local communities—urban, suburban, and rural—in determining the use of the funds in their areas. STPP also calls for a minimum annual increase of \$2 billion over the Administration's proposal for transit.

For the purpose of clarity, proposals have been grouped into three categories:

- Funding Programs;
- Decisionmaking; and
- Standards

In all cases, the measures outlined are intended to redirect the nation's transportation program to favor performance over system building. They build on the strengths of existing systems and institutions, thereby encouraging a relatively smooth transition. Moreover, they provide a specific framework for both assessing the performance of transportation systems and ensuring that new transportation projects

Administration vs STPP Proposals—continued.

STPP and the Administration's proposals differ significantly in their emphasis on highway programs. **Both proposals** call for completion of the Interstate and for substitution projects, and separate bridge programs. However, after earmarking funds for the preservation and enhancement of the Interstate system, **STPP allocates** all other funds in the Administration's National Highway System to the flexible metropolitan and rural programs so that local communities can choose the types of projects and new capacity the need.

STPP also proposes that for both the Interstate and bridge preservation programs funding be restricted to rehabilitation and other non-capacity improvements—new capacity improvements would be funded through rural and metropolitan programs.

STPP believes that greater flexibility in the use of funds and a stronger role for local officials in funding decisions is essential if the nation is to succeed in addressing its urban congestion, air quality, and rural isolation problems. Without this flexibility the mandates of the Clean Air Act—which affect all major urban centers in the United States, where most of our population lives—cannot be met.



Like this bridge over the Schuylkill River, in Manayunk, Penn., a high proportion of our nation's bridges are deteriorating. This bridge's waterproofing and rails have failed. It is currently out of service. (Photo courtesy of Chuck Taft, SEPTA)

serve the interests of the American people, the national economy, community integrity and the environment.

STPP's five funding proposals cover the maintenance and expansion of highways, transit, public roads and bridges, and other issues. The intent of the proposals is three-fold:

- First, to ensure the maintenance and safety of the nation's transportation systems;
- Second, to provide local areas with choices in both the mode and capacity of their transportation systems; and
- Third, to ensure better management and operation of existing systems before investing in new capacity.

Each program area will be funded for the full five-year term of the 1991 Surface Transportation Assistance Act. For both highway and transit projects, the federal funding level is 90 percent for resurfacing, restoration, rehabilitation or operational and management improvement projects and transportation enhancements, and 75 percent for projects that add to transportation system capacity. Funds apportioned under these programs will remain available for obligation for four years.

In addition to the programs described below, the STPP proposal includes other highway programs proposed by the Administration and their proposed funding levels, including: Interstate completion and substitution, and smaller programs such as federal lands highways.

These total \$10.4 billion and are included in both the Administration's and STPP's "Highways" category shown in funding level breakdown charts on page 20 and 21.

In all programs, "transportation enhancements" are activities or projects geared toward improving the compatibility of a particular mode or component of transportation with the landscape, architecture, or community attributes of the surrounding area. They can include: the purchase of scenic and historic resources; the development of bicycle and pedestrian facilities; planning and design improvement activities; and landscape and archeological projects.

Following is a summary of STPP's major proposals; STPP expects to develop additional positions on such issues as tolls and financing and standards for the future.

Funding Programs

Proposal One: Bridge Preservation

The federal government should allocate \$12.2 billion for the preservation of the nation's bridges. In addition, the Secretary of Transportation should maintain an inventory of the nation's bridges, and assess the condition of all bridges in that inventory.

Projects involving replacement, rehabilitation, and resurfacing, and

provements and mobile source controls in each of the next five years.

Federal support for transit decreased substantially during the 1980s, falling from 28 percent of total federal surface transportation assistance in 1982 to only 17 percent today. A transit funding level of \$26.6 billion for the five-year period of the Act will begin to correct the problem. However, additional funds still need to be identified if national mandates are to be met—especially those under the Clean Air and Americans with Disabilities Acts.

Due to the extended period of under-funding, there is a backlog of transit system needs. System rehabilitation is a priority, but new transit systems and additional capacity on existing systems are also required if urban and rural needs are to be met. STPP recommends that the Act limit the flexibility of states and metropolitan areas in using transit funds for other transportation modes. Federal funds allocated to system expansion should be made available for other modes to the extent that commitments for expansion through the alternatives analysis process and preliminary engineering have been met. STPP further recommends that the alternatives analysis process be reformed so that transit investments are assessed on the same performance basis as highway investments.

Federal funding for this program will come from two sources: at least

\$3.3 billion a year from the Highway Trust Fund, and the remainder from general funds. Additional funds can be obtained by spending down the balance of the mass transit account, reauthorizing the full \$.14 per gallon federal gas tax in 1995, and devoting a larger portion of gas tax revenues to transit.

Under the transit program, funds for research, training, human resources, and planning would be gradually increased to 3 percent of the Urban Mass Transit Authority (UMTA) budget. Funding allocations for operating assistance would continue at current levels for eligible transit operators. STPP also proposes that funding levels for rural and small urban transit, and elderly and handicapped projects be raised.

Coordination of transit planning with regional and local planning to promote locally established growth management strategies would be encouraged under the STPP's proposal. Finally, by equalizing the federal share of capital and operating funding across all modes, transit would be put on an equal footing with highway expansions and operational fixes in developing strategies for congestion relief.

Proposal Four: Metropolitan Mobility

The federal government should allocate \$34.5 billion for the maintenance, preservation, and expansion of existing transportation systems within metropolitan areas.

Under this proposal, the funding categories for metropolitan areas include:

- Resurfacing, restoration, and rehabilitation of metropolitan highways;
- Operational and management improvements, including carpool promotion and HOV facilities;
- Highway safety improvements;
- Transit projects—the construction, reconstruction, operations improvement, and expansion of transit facilities, including the purchase of rolling stock for fixed rail and the purchase of buses and support facilities;
- Capital projects to improve access to and coordination with other modes of transportation within the metropolitan area;
- Planning and technology improvement projects;
- Bicycle and pedestrian projects and other transportation enhancement projects; and
- Capacity expansion of the Interstate system, bridges, and public roads located within a metropolitan area.

Urban and suburban areas with populations of more than 50,000 are eligible for funding under this program—with special earmarking for metropolitan areas with more than 200,000 residents. To receive federal support, both the state and the metropolitan area, must have complied with applicable planning requirements.

Program funding will be apportioned on the basis of metropolitan population, with an incentive factor for reducing vehicle-miles-travelled (VMT). States can reserve as much as 10 percent of their federal allocation to reward metropolitan areas with populations of more than 200,000 for innovative growth management strategies, air quality improvement proposals, or projects that reduce VMT.

Proposal Five: Rural Access

The federal government should allocate \$15.5 billion to maintain, preserve, and expand the existing transportation systems outside metropolitan areas.

Projects eligible for federal funding under the rural program are of the same types listed in the metropolitan program, except that public transportation projects would not include the fixed-rail-type systems appropriate in urban areas.

Projects must be located in rural areas and non-metropolitan communities. No rural project may be funded unless the state has complied with applicable planning requirements.

For this program, funds will be apportioned among the states on the basis of public road mileage and non-metropolitan population.

Framework for Decisionmaking

Proposal One: State Transportation Planning

To ensure that federally-assisted projects achieve national objectives, each state should be required to develop and implement multi-modal state transportation plans and programs that are based on performance criteria.

Although federal transportation funds have supported state planning for more than two decades, there is no requirement to develop a state plan. Nor is there any requirement to coordinate state transportation plans with related land-use, energy, or environmental plans.

Under this program, state transportation agencies will develop long-range plans and short-range implementation programs. More specifically, they will be responsible for:

- Transportation planning in non-metropolitan areas;
- Connectivity between metropolitan areas;
- Reconciliation of metropolitan areas plans; and
- Linking plans, programs, and projects to reasonably anticipated funding over the authorization period of the Act.

Transportation agencies will be expected to work in consultation with state organizations designated under the Clean Air Act, and with

state agencies concerned with environmental, energy, and planning issues. Rural agencies also should be involved in the development of non-metropolitan plans.

Requiring states to prepare plans is an important step in improving transportation systems, because it directs transportation resources to achieve broader objectives and to use limited resources more effectively. State transportation plans must cover all transportation systems within the state, including federal and non-federal systems, and highway and non-highway transportation. Furthermore, they must assign functions and responsibilities to state, regional, and local governments.

Within their planning documents states must show how their transportation strategies perform in terms of specific objectives:

- Preserve existing federally-assisted facilities;
- Relieve urban congestion;
- Assist in the attainment of Clean Air Act requirements;
- Avoid water quality and aquatic resources impacts;
- Promote energy conservation in transportation; and
- Provide needed transit and road facilities in rural areas.

They will also have to document the efficiency and cost-effectiveness of planned transportation systems, show how public safety, the environmental and historical resources will be protected.

In addition, states must prepare a five-year transportation improvement program (TIP) that documents their means for implementing state and metropolitan plans.

Proposal Two: Transportation Performance Standards

To assist states in developing the required plans, quantitative techniques for determining the performance of state and metropolitan transportation systems, in the context of stated transportation objectives, should be established.

Under this proposal, the Secretary of Transportation would be required to promulgate regulations that measure transportation performance—quantitatively—in terms of attainment of objectives.

Proposal Three: Metropolitan Transportation Planning

Metropolitan planning organizations should be empowered to develop long-range plans and transportation improvement programs that are incorporated in the state transportation plans and programs that determine the use of federal transportation funds—including the Metropolitan Mobility Program.

Local governments understand the needs and problems of their communities better than any state or federal official because they use and function within their transportation system environment every day.

To these organizations, transportation is more than a set of statistics.

Metropolitan Planning Organizations (MPOs) have been supported by federal transportation funds for more than two decades. Comprehensive metropolitan transportation plans and improvement programs that identify projects have been developed as part of the MPO program throughout this period. However, transportation funding decisions have been made largely at the state and federal level.

The STPP proposal links the metropolitan plans to decisions on use of federal funds. Under the program, long-range metropolitan plans must:

- Cover all transportation systems within a metropolitan area, including federal and non-federal systems, and highway and non-highway systems.
- Reflect any existing state and local land use plans; and
- Demonstrate that they are achieving the objectives established in the state plan.

MPOs must also prepare a TIP that includes investments that will be funded during a five-year period. MPOs with populations of more than 200,000 must also prepare an annual TIP.

No investment, program, or project can be included in a metropolitan TIP unless it is contained in the long-range plan: projects that do not have realistic funding sources must be excluded from the TIP.

To ensure that state and metropolitan plans and programs are consistent, every state must establish a process to coordinate state and local transportation agencies during plan and TIP preparation and to incorporate metropolitan plans and TIPS in the state plan and TIP.

Proposal Four: Funds for Planning

Funding for both state and metropolitan transportation planning activities should be increased. The federal share of funding for these activities should be maintained at the current 85 percent funding level.

The Clean Air Act and other mandates have placed new responsibilities and requirements on metropolitan and state planning organizations, and additional federal funding will be required to meet these new planning requirements. STPP, therefore, proposes that the federal government increase its funding for metropolitan planning from the current level of 0.5 percent to a level of 1.5 percent of major highway program apportionments. At the same time, federal support for state highway planning should be increased from 1.5 percent to 2 percent of these apportionments. Approximately 1.5 percent of the transit program would also be available for metropolitan planning.

STPP agrees with the Administration proposal to make the above planning set-asides minimum

planning levels, and to set no limits on the use of regular program funds for these purposes.

Proposal Five: Public Participation in Planning

No state should receive federal funds under the Surface Transportation Assistance Act unless it has established procedures for public participation in the development of all plans, programs, and priorities developed by MPOs. Reasonable mechanisms to ensure compliance with the requirements of this proposal should be adopted.

Standards

Proposal One: Environmental Review Requirements

The U.S. Department of Transportation (DOT) should continue its responsibilities under federal environmental laws including the National Environmental Policy Act (NEPA) and Section 4(f) of the DOT Act.

The Administration's proposal seeks authority to delegate DOT's responsibilities under NEPA and other unspecified environmental laws to unnamed state agencies. Although STPP agrees with the objective of reducing unnecessary paperwork and delays, the authority sought is too broad and poorly defined to be

supported. DOT should involve key transportation and environmental interest groups in defining the problem and recommending policies. Such deliberations should include design standards—which have their own environmental and economic consequences—as well as environmental laws and regulations.

Proposal Two: Billboard Control

The Highway Beautification Act should be amended to prohibit new billboard construction along federally-aided highways, prohibit tree cutting on public-rights-of-way for the purpose of improved billboard visibility, and restore the rights of states and cities to amortize billboards.

With the exception of the added tree cutting provision, the STPP proposal is the same as the Administration's position on this issue.

Proposal Three: Scenic Roadway Protection

A roadway program, predicated on the protection, rather than construction of scenic and historic corridors should be established. The program should be designed to protect scenic and historic resources along designated corridors under specific standards for such roads.

Proposal Four: Truck Size and Weight

The size and weight allowances for trucks using the federal highways should be kept at current requirements.

Increasing the truck size and weight allowances would have serious environmental consequences because it would encourage further shifts from rail transportation to motor vehicles, which would in turn worsen air pollution, increase fuel requirements, and substantially increase congestion on existing roads .

Proposal Five: Research and Development

The federal government should increase funding, and refocus its transportation research and development programs to projects that encourage the development and use of alternatives to gas-powered vehicles.

In a recent poll conducted by Transit Now, 82 percent of all Americans agreed that “the U.S. should begin now to plan for more transportation choices.” Yet the vast majority of transportation research and development (R&D) activities relate to only one mode of transportation—the automobile. Although research on automotive-related areas such as “smart vehicles,” pavement preservation, and bridge construction techniques and materials is certainly

needed, STPP believes that the real focus of transportation R&D should be on improving total system performance and choices.

Less than 2 percent of federal transportation R&D is spent on transit, less on railroads, and virtually nothing on bicycle and pedestrian travel. If transportation is to foster economic, energy efficiency and air quality improvements and enhance our communities, R&D must change its focus in a number of areas.

Specifically:

- **Apportionment Formulae.** Existing data collection methods are wholly inadequate for the purposes of apportioning federal transportation assistance funds. Alternative distribution formulae that encourage energy conservation, system efficiency, and balanced system utilization across modes are needed.
- **Modeling.** Existing transportation models use travel behavior data that is more than 20 years old and focus exclusively on improving traffic flow. A new generation of transportation planning and analysis tools and data is needed if the nation is to achieve its other goals, such as conformity with clean air plans, and the integration of transportation and land use.
- **Growth Management.** Transportation now determines land use. If the national 4E goals are to be achieved, the correlation must be reversed: land use must determine the types and locations of transportation that are

needed to support communities. Research is needed on such innovative strategies for integrating transportation and land use as: urban boundaries, concurrency requirements, and adequate public facility ordinances, as well as strategies for linking conventional transportation planning models with geographic information systems.

- **Funding and Administration.** The total federal allocation for transportation R&D must be increased. The National Cooperative Highway Research Program (NCHRP) and the National Cooperative Transit Research Program (NCTRP) should be combined, and rail, bicycle, and pedestrian research should be added to the new program's agenda. Moreover, a minimum of 50 percent of all R&D should focus on alternatives to single passenger automobile trips.
- **Transportation Costs and Benefits.** No standardized methodology exists for documenting the direct and indirect costs of transportation systems, and their effects on the health, economic welfare, and environment of the nation. If accurate assessments are to be made, *standardized* methods for measuring the costs and benefits of all transportation systems must be developed.

Conclusions: Meeting the Transportation Challenge

In 1958, Lewis Mumford predicted that the recently-enacted Highway Act of 1956 would result in "a tomb of concrete roads and ramps covering the dead corpse of the city."¹ The prediction in part has been borne out. Our cities have suffered as people and businesses moved to the suburbs. And, our countrysides have been bulldozed into strip malls and parking lots. But the fact is, the cities are still alive, and much of the country remains as picturesque as it was 100 years ago.

At this juncture, we have an opportunity and *obligation* to step back and *plan* the future of our transportation systems. In doing so we must protect our environment, make the best use of our lands, and preserve the natural beauty of our landscapes—while meeting the nation's travel and transport needs.

No one would question the importance of federal direction and funding in building this country's transportation systems. Nor would anyone down play the role of the Interstate in the national economy. But the United States is now connected—from coast-to-coast and border-to-border. And the time for massive highway building is over.

The federal government has its role in transportation, now communities must have theirs. If this country is to solve its transportation and pollution crisis, every community must examine its own transportation problems and determine how they can best be solved, and the federal government must give them the authority to do so. Communities, and their resident businesses, know best what their constituents need—just look at what some are doing.

Fairfax City, Va. Located about 15 miles outside of Washington, D.C., Fairfax City, Va. takes full advantage of the Washington Metrorail system, while continuing to manage its own transportation needs. The crown jewel of the city's local transit system is the CUE bus. This compact, highly efficient bus-rail line provides frequent service along two concentric routes to the local Metrorail station. When the local Metrorail station opened in 1985, Fairfax City reconfigured its bus service to provide short-distance connector routes to it. Viewing transit as any other municipal service, Fairfax City provides 52 percent of CUE's operating expenses through local taxes. Fares are kept low (\$0.35 per ride) to encourage use.

¹Lewis Mumford, 1963. *The Highway and the City*. Harcourt, Brace & World, Inc. p. 238.



*The San Diego Trolley.
(Photo courtesy of the
Department of Transportation,
Sacramento, Calif.)*

Plano, Tx. To the government and citizens of Plano, Tx., an affluent suburb of Dallas, quality public transportation is also a matter of civic pride. Plano has initiated five local and two commuter bus routes that carry residents to destinations within its jurisdiction, to other suburban centers, and to the Dallas business district. The community receives an annual rebate on the sales tax it contributes to the Dallas Area Rapid Transit (DART) system. That rebate is used to improve transit routes and coordinate all area transportation activities.

San Diego, Ca. The San Diego, Ca., trolley began operation in 1981. It is not only one of the least costly transit systems in the country, it is also a system that has had overwhelming popular support. In 1987, San Diego voters approved a referendum that commits one-third of the revenues from a special tax levy to transit, including the trolley system, and also earmarks \$1 million annually for bicycle and pedestrian facilities. The San Diego Regional Association of Governments is the designated planning and administrative agency for these funds. This role has made it a leader in the region's transportation decision-making.

Portland, Ore. Twenty years ago, the city of Portland had one solution to its transportation problems—freeways. However, when Oregon adopted a State land use law, Portland abandoned its new freeway projects. Instead, Portland turned its efforts to the construction of a light-rail system, which today carries the

equivalent of two lanes of traffic on *every* road entering downtown. The effects of Portland's light-rail system, and related growth management policies, are nothing short of phenomenal: downtown has added 30,000 jobs without an increase in car traffic; the downtown share of the regional retail market increased from 7 to nearly 30 percent; and health-threatening smoggy days went from 100 per year to none. In short, light-rail and good planning brought better air quality and a rejuvenated city economy to Portland.²

What made the light-rail system possible was the local decision not to build an Interstate. The funds that would otherwise have built the road were diverted to the transit project and 184 other local improvements.

Taking the Challenge

Solving this country's transportation crisis is a difficult challenge. However, it's a challenge we can't afford to lose. Rethinking and revising the premises of the 1991 Surface Transportation Assistance Act is the first step in accepting the challenge.

²Richard E. Ayres, Natural Resources Defense Council, 1991. *The Clean Air Act: Catalyst for a New Transportation Policy*. Alexandria, Va.: Paper presented at the Transit Policy Seminar, February 14-15, 1991.

ERRATA SHEET: ACTING IN THE NATIONAL INTEREST

The information on page 13 is in error. The section should read:

Air Quality and Transportation

Motor vehicles are major sources of gases that contribute to greenhouse warming and air pollution. Greenhouse gases from motor vehicles include carbon dioxide, the CFCs and carbon monoxide. Carbon monoxide indirectly contributes to global warming by accelerating the buildup of methane, a very potent greenhouse gas. It is also a serious urban pollutant and a promoter of smog.

Ozone is the principal component of smog. About 112 million Americans live in areas where the air quality standard is exceeded. People exposed to ozone suffer eye irritation, cough and chest discomfort, headaches, upper respiratory illness, increased asthma attacks and reduced pulmonary function.

The CFCs from motor-vehicle air conditioners are both major greenhouse gases and cause depletion of the upper-atmosphere ozone layer.

Although transportation is not the only contributor to global warming, its role is substantial. Every gallon of gas consumed for vehicular travel results in the release of 19 pounds of carbon dioxide into our atmosphere. Of this, about 5.3 pounds are carbon. Looking at it another way, each 15 gallon tank of gas results in the eventual release of 300 pounds of carbon dioxide.

Transportation--motor vehicles, planes and ships--accounts for about 31 percent of total U.S. annual carbon dioxide emissions, two-thirds of national carbon monoxide emissions, a third of hydrocarbon emissions (necessary for smog formation) and 41 percent of nitrogen oxide emissions (important in forming both smog and acid rain).